

Claims

- [c1] What is claimed is:
1. A signal compensation method comprising:
comparing a transmission signal with a reference level for generating a comparison result; and
dynamically compensating the transmission signal according to the comparison result.
 - [c2] 2. The signal compensation method of claim 1 wherein the transmission signal is transmitted via an Ethernet transmission line.
 - [c3] 3. The signal compensation method of claim 1 wherein said comparing step comprises comparing the transmission signal and the reference level at intervals of a predetermined period.
 - [c4] 4. The signal compensation method of claim 1 wherein said compensating step comprises compensating the transmission signal by decreasing or increasing an associated current.
 - [c5] 5. The signal compensation method of claim 1 wherein the transmission signal is a differential signal.
 - [c6] 6. A signal compensation circuit comprising:
a detection circuit for detecting a signal level of a transmission signal transmitted via a transmission line; and
a correction circuit for dynamically compensating the transmission signal according to a comparison result generated by comparing the transmission signal with a reference level.
 - [c7] 7. The signal compensation circuit of claim 6 wherein the correction circuit comprises a current source and a first resistor, the current source is capable of generating a compensation current according to a result generated from the detection circuit, and the compensation current passes through the first resistor to generate a compensation voltage for compensating the signal level of the transmission signal.

- [c8] 8. The signal compensation circuit of claim 7 wherein the correction circuit further comprises a second resistor connecting between the first resistor and the transmission line.
- [c9] 9. The signal compensation circuit of claim 6 wherein the transmission signal is transmitted via the transmission line.
- [c10] 10. The signal compensation circuit of claim 9 wherein the transmission line is an Ethernet transmission line.
- [c11] 11. The signal compensation circuit of claim 6 wherein the transmission signal is an MLT-3 coded signal.
- [c12] 12. The signal compensation circuit of claim 6 wherein the transmission signal is a 100Base-T signal.
- [c13] 13. The signal compensation circuit of claim 6 wherein the detection circuit detects a difference between the transmission signal and the reference level at intervals of a predetermined period.
- [c14] 14. The signal compensation circuit of claim 6 wherein the transmission signal is a differential signal.
- [c15] 15. The signal compensation circuit of claim 7 wherein the current source comprises a plurality of unit current sources, which are selectively turned on or off according to a difference between the transmission signal and the reference level.
- [c16] 16. The signal compensation circuit of claim 7 wherein the current source comprises a plurality of unit current sources, which are increasingly turned on when the transmission signal exceeds the reference level.
- [c17] 17. The signal compensation circuit of claim 7 wherein the current source comprises a plurality of unit current sources, which are decreasingly turned off when the transmission signal does not exceed the reference level.
- [c18] 18. The signal compensation circuit of claim 14 further comprising a common-mode power supply for providing the differential signal with a common-mode

voltage.

- [c19] 19. The signal compensation circuit of claim 14 wherein the signal compensation circuit compensates a baseline wander of the transmission signal.
- [c20] 20. The signal compensation circuit of claim 18 wherein the common-mode voltage is 1.8 volts.